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JAMAL PHELPS

Academic Librarianship Today Purdue University Press
The Data Book: Collection and Management of Research Data is the first practical book written for researchers and research team members covering how to collect and manage data for research. The book covers basic types of data and fundamentals of how data grow, move and change over time. Focusing on pre-publication data collection and handling, the text illustrates use of these key concepts to match data collection and management methods to a particular study, in essence, making good decisions about data. The first section of the book defines data, introduces fundamental types of data that bear on methodology to collect and manage them, and covers data management planning and research reproducibility.

The second section covers basic principles of and options for data collection and processing emphasizing error resistance and traceability. The third section focuses on managing the data collection and processing stages of research such that quality is consistent and ultimately capable of supporting conclusions drawn from data. The final section of the book covers principles of data security, sharing, and archival. This book will help graduate students and researchers systematically identify and implement appropriate data collection and handling methods.

Research Data Management Emerald Group Publishing

A trustworthy repository provides assurance in the form of management documents, event logs, and audit trails that digital objects are being managed correctly. The assurance includes plans for the sustainability of the repository, the accession of digital records, the management of technology evolution, and the mitigation of the risk of data loss. A detailed assessment is provided by the ISO-16363:2012 standard, "Space data and information transfer systems—Audit and certification of trustworthy digital repositories." This book examines whether the ISO specification for trustworthiness can be enforced by computer actionable policies. An implementation of the policies is provided and the policies are sorted into categories for procedures to manage externally generated documents, specify repository parameters, specify preservation

metadata attributes, specify audit mechanisms for all preservation actions, specify control of preservation operations, and control preservation properties as technology evolves. An application of the resulting procedures is made to enforce trustworthiness within National Science Foundation data management plans.

Shots in the Dark National Academies Press

Openness and sharing of information are fundamental to the progress of science and to the effective functioning of the research enterprise. The advent of scientific journals in the 17th century helped power the Scientific Revolution by allowing researchers to communicate across time and space, using the technologies of that era to generate reliable knowledge more quickly and efficiently. Harnessing today's stunning, ongoing advances in information technologies, the global research enterprise and its stakeholders are moving toward a new open science ecosystem. Open science aims to ensure the free availability and usability of scholarly publications, the data that result from scholarly research, and the methodologies, including code or algorithms, that were used to generate those data. Open Science by Design is aimed at overcoming barriers and moving toward open science as the default approach across the research enterprise. This report explores specific examples of open science and discusses a range of challenges, focusing on stakeholder perspectives. It is meant to

provide guidance to the research enterprise and its stakeholders as they build strategies for achieving open science and take the next steps.
The Entrepreneurial Librarian Research Data Management
Research Data ManagementPurdue University Press
Sharing Research Data Rowman & Littlefield
Modern information and communication technologies, together with a cultural upheaval within the research community, have profoundly changed research in nearly every aspect. Ranging from sharing and discussing ideas in social networks for scientists to new collaborative environments and novel publication formats, knowledge creation and dissemination as we know it is experiencing a vigorous shift towards increased transparency, collaboration and accessibility. Many assume that research workflows will change more in the next 20 years than they have in the last 200. This book provides researchers, decision makers, and other scientific stakeholders with a snapshot of the basics, the tools, and the underlying visions that drive the current scientific (r)evolution, often called ‘Open Science.’
Having Success with NSF McFarland
A comprehensive guide to everything scientists need to know about data management, this book is essential for researchers who need to learn how to organize, document and take care of their own data. Researchers in all disciplines are faced with the challenge of managing the growing amounts of

digital data that are the foundation of their research. Kristin Briney offers practical advice and clearly explains policies and principles, in an accessible and in-depth text that will allow researchers to understand and achieve the goal of better research data management. Data Management for Researchers includes sections on: * The data problem – an introduction to the growing importance and challenges of using digital data in research. Covers both the inherent problems with managing digital information, as well as how the research landscape is changing to give more value to research datasets and code. * The data lifecycle – a framework for data's place within the research process and how data's role is changing. Greater emphasis on data sharing and data reuse will not only change the way we conduct research but also how we manage research data. * Planning for data management – covers the many aspects of data management and how to put them together in a data management plan. This section also includes sample data management plans. * Documenting your data – an often overlooked part of the data management process, but one that is critical to good management; data without documentation are frequently unusable. * Organizing your data – explains how to keep your data in order using organizational systems and file naming conventions. This section also covers using a database to organize and analyze content. * Improving data analysis – covers managing information

through the analysis process. This section starts by comparing the management of raw and analyzed data and then describes ways to make analysis easier, such as spreadsheet best practices. It also examines practices for research code, including version control systems. * Managing secure and private data – many researchers are dealing with data that require extra security. This section outlines what data falls into this category and some of the policies that apply, before addressing the best practices for keeping data secure. * Short-term storage – deals with the practical matters of storage and backup and covers the many options available. This section also goes through the best practices to insure that data are not lost. * Preserving and archiving your data – digital data can have a long life if properly cared for. This section covers managing data in the long term including choosing good file formats and media, as well as determining who will manage the data after the end of the project. * Sharing/publishing your data – addresses how to make data sharing across research groups easier, as well as how and why to publicly share data. This section covers intellectual property and licenses for datasets, before ending with the altmetrics that measure the impact of publicly shared data. * Reusing data – as more data are shared, it becomes possible to use outside data in your research. This chapter discusses strategies for finding datasets and lays out how to cite data once you have found it. This book is designed for active

scientific researchers but it is useful for anyone who wants to get more from their data: academics, educators, professionals or anyone who teaches data management, sharing and preservation. "An excellent practical treatise on the art and practice of data management, this book is essential to any researcher, regardless of subject or discipline." —Robert Buntrock, Chemical Information Bulletin

Grant Proposal Guide Pelagic Publishing Ltd

This book constitutes the proceedings of the 22nd International Conference on Theory and Practice of Digital Libraries, TPDL 2018, held in Porto, Portugal, in September 2018. The 51 full papers, 17 short papers, and 13 poster and tutorial papers presented in this volume were carefully reviewed and selected from 81 submissions. The general theme of TPDL 2018 was Digital Libraries for Open Knowledge. The papers present a wide range of the following topics: Metadata, Entity Disambiguation, Data Management, Scholarly Communication, Digital Humanities, User Interaction, Resources, Information Extraction, Information Retrieval, Recommendation.

Data Information Literacy CRC Press

eResearch presents new challenges in managing data. This book explains to librarians and other information specialists what eResearch is, how it impacts library services and collections, and how to contribute to eResearch activities at their parent institutions. Today's librarians need to be technology-savvy information experts

who understand how to manage datasets. Demystifying eResearch: A Primer for Librarians prepares librarians for careers that involve eResearch, clearly defining what it is and how it impacts library services and collections, explaining key terms and concepts, and explaining the importance of the field. You will come to understand exactly how the use of networked computing technologies enhances and supports collaboration and innovative methods particularly in scientific research, learn about eResearch library initiatives and best practices, and recognize the professional development opportunities that eResearch offers. This book takes the broad approach to the complex topic of eResearch and how it pertains to the library community, providing an introduction that will be accessible to readers without a background in electronic research. The author presents a conceptual overview of eResearch with real-world examples of electronic research activities to quickly increase your familiarity with eResearch and awareness of the current state of eResearch librarianship.

Walter de Gruyter

Digital technologies and networks are now part of everyday work in the sciences, and have enhanced access to and use of scientific data, information, and literature significantly. They offer the promise of accelerating the discovery and communication of knowledge, both within the scientific community and in the broader society, as scientific data and information are

made openly available online. The focus of this project was on computer-mediated or computational scientific knowledge discovery, taken broadly as any research processes enabled by digital computing technologies. Such technologies may include data mining, information retrieval and extraction, artificial intelligence, distributed grid computing, and others. These technological capabilities support computer-mediated knowledge discovery, which some believe is a new paradigm in the conduct of research. The emphasis was primarily on digitally networked data, rather than on the scientific, technical, and medical literature. The meeting also focused mostly on the advantages of knowledge discovery in open networked environments, although some of the disadvantages were raised as well. The workshop brought together a set of stakeholders in this area for intensive and structured discussions. The purpose was not to make a final declaration about the directions that should be taken, but to further the examination of trends in computational knowledge discovery in the open networked environments, based on the following questions and tasks: 1. Opportunities and Benefits: What are the opportunities over the next 5 to 10 years associated with the use of computer-mediated scientific knowledge discovery across disciplines in the open online environment? What are the potential benefits to science and society of such techniques? 2. Techniques and Methods

for Development and Study of Computer-mediated Scientific Knowledge Discovery: What are the techniques and methods used in government, academia, and industry to study and understand these processes, the validity and reliability of their results, and their impact inside and outside science? 3. Barriers: What are the major scientific, technological, institutional, sociological, and policy barriers to computer-mediated scientific knowledge discovery in the open online environment within the scientific community? What needs to be known and studied about each of these barriers to help achieve the opportunities for interdisciplinary science and complex problem solving? 4. Range of Options: Based on the results obtained in response to items 1-3, define a range of options that can be used by the sponsors of the project, as well as other similar organizations, to obtain and promote a better understanding of the computer-mediated scientific knowledge discovery processes and mechanisms for openly available data and information online across the scientific domains. The objective of defining these options is to improve the activities of the sponsors (and other similar organizations) and the activities of researchers that they fund externally in this emerging research area. The Future of Scientific Knowledge Discovery in Open Networked Environments: Summary of a Workshop summarizes the responses to these questions and tasks at hand.

Preserving Digital Materials IGI Global Learn all the basic principles involved in

initiating an academic career and building an externally funded academic research program with this practical guide. Based on the author's extensive experience as a government funding agency director and successful academic, it provides step-by-step advice on how to identify an appropriate funding agency and program manager, how to present your research in a concise and effective manner, and, ultimately, how to obtain your first research grant. It explains the faculty recruitment process in detail and outlines the key timelines associated with being on the tenure track. Providing a unique insight into research funding agency operation and expectations, this is the 'go to' guide for new faculty members in engineering, the sciences, and mathematics looking to gain a head start in their academic careers.

Information Services Today W. W. Norton & Company

Intended for use by both librarians and students in LIS programs, Academic Librarianship Today is the most current, comprehensive overview of the field available today. Key features include: Each chapter was commissioned specifically for this new book, and the authors are highly regarded academic librarians or library school faculty— or both Cutting-edge topics such as open access, copyright, digital curation and preservation, emerging technologies, new roles for academic librarians, cooperative collection development and resource sharing, and patron-driven acquisitions are explored in depth Each

chapter ends with thought-provoking questions for discussion and carefully constructed assignments that faculty can assign or adapt for their courses The book begins with Gilman's introduction, an overview that briefly synthesizes the contents of the contributors' chapters by highlighting major themes. The main part of the book is organized into three parts: The Academic Library Landscape Today, Academic Librarians and Services Today, and Changing Priorities, New Directions.

Teaching Research Methods in Political Science National Academies Press

Teaching Research Methods in Political Science brings together experienced instructors to offer a range of perspectives on how to teach courses in political science. It focuses on numerous topics, including identifying good research questions, measuring key concepts, writing literature reviews and developing information literacy skills.

Data Management American Library Association

The old image of an entrepreneur as a scrappy, independent risk-taker has been replaced by the reality of individuals incorporating innovative ideas in more traditional settings. This collection of essays illustrates how librarians are infusing entrepreneurial principles in a variety of arenas, including public, private, academic, and special libraries. It chronicles how entrepreneurial librarians are flourishing in the digital age, advocating social change, responding to patron demands,

designing new services, and developing exciting fundraising programs. Applying new business models to traditional services, they eagerly embrace entrepreneurship in response to patrons' demands, funding declines, changing resource formats, and other challenges. By documenting the current state of entrepreneurship in libraries, this volume upends the public image of librarians as ill-suited to risky or creative ventures and places them instead on the cutting edge of innovations in the field. *Research Methods in Language Acquisition* National Academies Press Master the fundamentals of planning, preparing, conducting, and presenting engineering research with this one-stop resource Engineering Research: Design, Methods, and Publication delivers a concise but comprehensive guide on how to properly conceive and execute research projects within an engineering field. Accomplished professional and author Herman Tang covers the foundational and advanced topics necessary to understand engineering research, from conceiving an idea to disseminating the results of the project. Organized in the same order as the most common sequence of activities for an engineering research project, the book is split into three parts and nine chapters. The book begins with a section focused on proposal development and literature review, followed by a description of data and methods that explores quantitative and qualitative experiments and analysis, and ends with a section on project presentation and preparation of

scholarly publication. Engineering Research offers readers the opportunity to understand the methodology of the entire process of engineering research in the real word. The author focuses on executable process and principle-guided exercise as opposed to abstract theory. Readers will learn about: An overview of scientific research in engineering, including foundational and fundamental concepts like types of research and considerations of research validity How to develop research proposals and how to search and review the scientific literature How to collect data and select a research method for their quantitative or qualitative experiment and analysis How to prepare, present, and submit their research to audiences and scholarly papers and publications Perfect for advanced undergraduate and engineering students taking research methods courses, Engineering Research also belongs on the bookshelves of engineering and technical professionals who wish to brush up on their knowledge about planning, preparing, conducting, and presenting their own scientific research.

The Data Book Routledge

Almost one hundred presentations from the 32nd annual Charleston Library Conference (held November 7-10, 2012) are included in this annual proceedings volume. Major themes of the meeting included alternative metrics for measuring impact, patron driven acquisition, Open Access monographs, the future of university presses, and techniques for minimising duplication

and emphasising the unique in library collections. While the Charleston meeting remains a core one for acquisitions librarians in dialog with publishers and vendors, the breadth of coverage of this volume reflects the fact that this conference is now one of the major venues for leaders in the publishing and library communities to shape strategy and prepare for the future. Almost 1,500 delegates attended the 2012 meeting, ranging from the staff of small public library systems to the CEOs of major corporations. This fully indexed, copyedited volume provides a rich source for the latest evidence-based research and lessons from practice in a range of information science fields. The contributors are leaders in the library, publishing, and vendor communities.

Handbook of Research on Academic Libraries as Partners in Data Science Ecosystems John Wiley & Sons

Rivers provide about 60 percent of the nation's drinking water and irrigation water and 10 percent of the nation's electric power needs. The multiple and sometimes incompatible services demanded of rivers often lead to policy and management conflicts that require the integration of science-based information. This report advises the U.S. Geological Survey on how it can best address river science challenges by effectively using its resources and coordinating its activities with other agencies. The report identifies the highest priority river science issues for the USGS, including environmental flows and river restoration, sediment transport

and geomorphology, and groundwater surface-water interactions. It also recommends two cross-cutting science activities including surveying and mapping the nation's river systems according to key physical and landscape features, and expanding work on predictive models, especially those that simulate interactions between physical-biological processes. The report identifies key variables to be monitored and data-managed. It proposes enhancements in streamflow, biological, and sediment monitoring; these include establishing multidisciplinary, integrated reach-scale monitoring sites and developing a comprehensive national sediment monitoring program. Finally, it encourages the USGS to be at the forefront of new technology application, including airborne lidar and embedded, networked, wireless sensors.

Scientific Integrity and Ethics in the Geosciences Emerald Group Publishing

As part of its current physics decadal survey, Physics 2010, the NRC was asked by the DOE, NSF, and NASA to carry out an assessment of and outlook for the broad field of plasma science and engineering over the next several years. The study was to focus on progress in plasma research, identify the most compelling new scientific opportunities, evaluate prospects for broader application of plasmas, and offer guidance to realize these opportunities. The study paid particular attention to these last two points. This "demand-side" perspective provided a clear look at what plasma research can do to help

achieve national goals of fusion energy, economic competitiveness, and nuclear weapons stockpile stewardship. The report provides an examination of the broad themes that frame plasma research: low-temperature plasma science and engineering; plasma physics at high energy density; plasma science of magnetic fusion; space and astrophysical science; and basic plasma science. Within those themes, the report offers a bold vision for future developments in plasma science.

Opening Science SAGE

The theme of the 2011 Charleston Conference, the annual event that explores issues in book and serial acquisition, was "Something's Gotta Give." The conference, held November 2-5, 2011, in Charleston, SC, included 9 pre-meetings, more than 10 plenaries, and over 120 concurrent sessions. The theme reflected the increasing sense of strain felt by both libraries and publishers as troubling economic trends and rapid technological change challenge the information supply chain. What part of the system will buckle under this pressure? Who will be the winners and who will be the losers in this stressful environment? The Charleston Conference continues to be a major event for information exchange among librarians, vendors, and publishers. As it begins its fourth decade, the Conference is one of the most popular international meetings for information professionals, with almost 1,500 delegates. Conference attendees continue to remark on the informative and thought-provoking

sessions. The Conference provides a collegial atmosphere where librarians, vendors, and publishers talk freely and directly about issues facing libraries and information providers. In this volume, the organizers of the meeting are pleased to share some of the learning experiences that they-and other attendees-had at the conference.

Data Science for Librarians John Wiley & Sons

This themed volume focuses not on the how of undertaking assessment and outcome evaluations, but rather on their successes and failures in various contexts in which these tools have been and will be used.

Get Funded: An Insider's Guide to Building An Academic Research Program Walter de Gruyter GmbH & Co KG

This book provides a single-volume introduction to the principles, strategies and practices currently applied by librarians and recordkeeping professionals to the critical issue of preservation of digital information. It incorporates practice from both the recordkeeping and the library communities, taking stock of current knowledge about digital preservation and describing recent and current research, to provide a framework for reflecting on the issues that digital preservation raises in professional practice.

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